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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,077	02/17/2004	Edward J. Fabian	03-379	1830

34704 7590 09/29/2005

BACHMAN & LAPOINTE, P.C.
 900 CHAPEL STREET
 SUITE 1201
 NEW HAVEN, CT 06510

EXAMINER

HOLZEN, STEPHEN A

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/781,077		FABIAN ET AL.	
	Examiner		Art Unit	
	Stephen A. Holzen		3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-16 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-16 and 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election in the reply filed on 9/15/2005 is acknowledged. Applicant has traversed the restriction requirement and amended the claims in such a way that restriction is not proper. The examiner has withdrawn the restriction requirement.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsotsis (5,518,796) in view of Zwart (3,964,527) and further in view of Anderson et al (2004/0188025). Tsotsis discloses a panel construction having increased durability, particularly directed at aircraft flooring, however the actual uses of the panel are not limited by the disclosure. The panel has an upper and lower skin (1 & 5) are made of fiber glass epoxy or alternatively with graphite prepreg with epoxy adhesively bonded to a central honeycomb core, made of a thermoplastic fiber such as Nomex. (See col. 2, lines 55-65 & Col. 3, lines 25-35). Inherently honeycomb is open celled. The core is made from Nomex, which is an insulating material, and inherently has a first and second surface. Inherently the epoxy is a 350 degree Fahrenheit curing epoxy structural film

adhesive. Tsotsis does not disclose filling the honeycomb core with a fiberglass material.

Zwart however teaches that it is well known in the art of aircraft panel manufacturing to fill honeycomb cores with a fiberglass material to increase the sound absorptive properties of the panel. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to fill the honeycomb core of Tsotsis with a fiberglass material for the purpose of increasing the insulative properties of the panel. Fiberglass is inherently fire retardant (it has no melting point but softens up to 2000 degree centigrade where it begins to degrade).

Tsotsis in view of Zwart do not disclose the use of the panel with a helicopter. Anderson however teaches that it is well known in the art to use composites in a helicopter fuselage (see Figure 1). It would have been obvious to one having ordinary skill in the art, at the time the invention was made to use the panel of Tsotsis as modified by Zwart in a helicopter fuselage structure since doing so would increase the strength of the structure while reducing its weight.

4. Claims 3, 4, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsotsis (5,518,796) in view of Zwart (3,964,527), in view of Anderson and further in view of Lewis (6,968,641).

Tsotsis discloses a panel construction having increased durability, particularly directed at aircraft flooring, however the actual uses of the panel are not limited by the disclosure. The panel has an upper and lower skin (1 & 5) are made of fiber glass

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epoxy or alternatively with graphite prepreg with epoxy adhesively bonded to a central honeycomb core, made of a thermoplastic fiber such as Nomex. (See col. 2, lines 55-65 & Col. 3, lines 25-35). Inherently honeycomb is open celled, and is made from Nomex, which is an insulating material, inherently the core has a first and second surface. Tsotsis does not disclose filling the honeycomb core with a fiberglass material.

Zwart however teaches that it is well known in the art of aircraft panel manufacture to filled honeycomb cores with a fiberglass material to increase the sound absorptive properties of the panel. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to fill the honeycomb core of Tsotsis with a fiberglass material for the purpose of increasing the insulative properties of the fuselage. Fiberglass is inherently fire retardant (it has no melting point but softens up to 2000 degree centigrade where it begins to degrade).

Tsotsis in view of Zwart do not disclose the use of the panel with a helicopter. Anderson however teaches that it is well known in the art to use composites in a helicopter fuselage (see Figure 1). It would have been obvious to one having ordinary skill in the art, at the time the invention was made to use the panel of Tsotsis as modified by Zwart in a helicopter fuselage structure since doing so would increase the strength of the structure while reducing its weight.

Tsotsis nor Zwart nor Anderson discloses a plurality of plies of structural graphite prepreg bonded to each other. Lewis however teaches that it is known to use multiple graphite plies on the top and bottom surfaces of a central core. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to use

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a plurality of graphite plies as taught by Lewis since it has been held that mere duplication of the essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis* Col 193 USPQ 8.

5. Claims 6, 14, 15, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsotsis (5,518,796) in view of Zwart (3,964,527) and further in view of Anderson. Tsotsis discloses a panel construction having increased durability, particularly directed at aircraft flooring, however the actual uses of the panel are not limited by the disclosure. The panel has an upper and lower skin (1 & 5) are made of fiber glass epoxy or alternatively with graphite prepreg with epoxy adhesively bonded to a central honeycomb core, made of a thermoplastic fiber such as Nomex. (see col. 2, lines 55-65 & Col. 3, lines 25-35). Inherently honeycomb is open celled. The core is made from Nomex, which is an insulating material, and inherently has a first and second surface. Inherently the epoxy is a 350 degree Fahrenheit curing epoxy structural film adhesive. Tsotsis does not disclose filling the honeycomb core with a fiberglass material.

Zwart however teaches that it is well known in the art of aircraft panel manufacturing to fill honeycomb cores with a fiberglass material to increase the sound absorptive properties of the panel. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to fill the honeycomb core of Tsotsis with a fiberglass material for the purpose of increasing the insulative properties of the fuselage. Fiberglass is inherently fire retardant (it has no melting point but softens up to 2000 degree centigrade where it begins to degrade).

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Tsotsis in view of Zwart do not disclose the use of the panel with a helicopter. Anderson however teaches that it is well known in the art to use composites in a helicopter fuselage (see Figure 1). It would have been obvious to one having ordinary skill in the art, at the time the invention was made to use the panel of Tsotsis as modified by Zwart in a helicopter fuselage structure since doing so would increase the strength of the structure while reducing its weight.

6. Claims 7-13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsotsis as applied to claim 6 above and further in view of ordinary skill in the art. Tsotsis does not disclose all the various uses that his composite material can be used, however it should be appreciated that Tsotsis discloses that the composite panel is made from Nomex (see Col. 3, line 30), and that Nomex is a well known source of thermal protection and is exception light weight. From the Dupont website, it should be appreciated that the uses of Nomex in the aerospace industry are wide and varied and are not limited by the disclosure of Tsotsis. Dupont's website teaches that such uses of Nomex are: flaps, wing-to-body fairing, nacelles, radomes, doors, floors, ceilings, stow bins and walls. Therefor it would have been obvious to use the composite panel of Tsotsis as modified by Zwart as a structure in a helicopter for the doors, the panels, the steps, the hatch, the cabin since doing so would increase the strength of the overall structure while reducing the weights, when being compared to pure metallic structure and frame.

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7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsotsis (5,518,796) in view of Zwart (3,964,527) and Anderson, and further in view of Lewis (6,968,641).

Neither Tsotsis nor Zwart discloses a plurality of plies of structural graphite prepreg bonded to each other. Lewis however teaches that it is known to use multiple graphite plies on the top and bottom surfaces of a central core. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to use a plurality of graphite plies as taught by Lewis since it has been held that mere duplication of the essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis* Col 193 USPQ 8.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsotsis in view of Zwart and further in view of Anderson et al (2004/0188025).

Tsotsis discloses an aerospace component formed from a self extinguishing composite material comprising a core of honeycomb cells (#3), a first and second surface (top and bottom of core) and at least one ply of graphite prepreg bonded to the upper and lower surface (see Col. 3, line 26) bonded to the upper and lower surface. Tsotsis does not disclose a fiberglass filing for the honeycomb core. Zwart however discloses that it is known to fill honeycomb structure with fiberglass for insulation reasons. It would have been obvious to fill the honeycomb core of Tsotsis with honeycomb for the purpose of increasing the insulative properties of the composite structure.

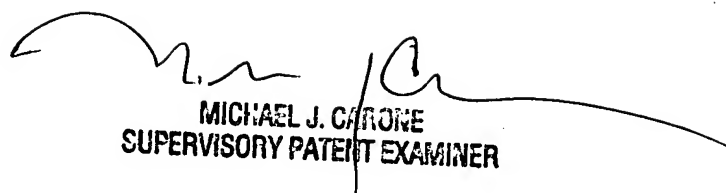
Tsotsis in view of Zwart do not specifically disclose using their material to form the structure of a helicopter. Anderson et al (2004/0188025) does however teach that it is generally known in the art to use composite materials to build a helicopter structure having at least one component for allowing at least one human access to and egress from at least one of the cabin and a cockpit section. It would have been obvious to use the material of Tsotsis as modified by Zwart to manufacture a helicopter frame since the material of Tsotsis as modified by Zwart increases the structure strength over a purely metallic structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A. Holzen whose telephone number is 571-272-6903. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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MICHAEL J. CARONE
SUPERVISORY PATENT EXAMINER